

First record of *Piper scabrellum* Yunck. from Espírito Santo state, southeastern Brazil

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ABSTRACT: We present here the first records of *Piper scabrellum* for the state of Espírito Santo, Brazil. Taxonomic comments, distribution map and pictures of the species are presented.

Piper L. is one of the largest genera of angiosperms with 2,000 pantropical species and most species rich in the Neotropics (Frodin 2004; Jaramillo *et al.* 2008; Quijano-Abril *et al.* 2006). There are 146 species of *Piper* in the Brazilian Atlantic Forest, of which 51 (35%) occur in the state of Espírito Santo (Guimarães *et al.* 2013).

The knowledge of the flora of the state of Espírito Santo is restricted to a few studies along the Atlantic Forest. These studies usually have been restricted to some protected areas involving some taxonomic groups (for example: Kollmann 2006, Goldenberg and Reginato 2006, Coelho 2010). Additionally, new species have been recently described in the state (Kollmann and Peixoto 2012; Meirelles *et al.* 2012; Stehmann and Giacomin 2012; Leme and Kollmann 2013; Freitas *et al.* 2013), which highlights the floristic importance and the singularity of its flora. The lack of floristic studies is especially noticeable in the south of the state.

The Serra do Valentim, between the cities of Iúna and Muniz Freire, consists in a large patch of vegetation near the Serra do Caparaó. This is also a priority area for biodiversity conservation (MMA 2008). Despite studies about the vegetation of this region, a recent study by one of us (J.P.F.Z.) demonstrated the importance of the Serra do Valentim as a refuge for endangered species, besides the first record to the state of many others.

This study results from fieldwork and herbaria research of the project "Flora of the state of Espírito Santo". The first records for *Piper scabrellum* in the state of Espírito Santo are here presented, along with a distribution map, and pictures.

Piper scabrellum Yunck. (Figure 1) is a shrub about 2 m tall, stem hispid-scabrous with heteromorphous hairs, elliptic blades, inequilaterally acute base, acute apex, blade with scabrous adaxial side and hispid-hirsute abaxial side,

peduncle hispid-hirsute, erect to regularly curved spikes, sulcate rachis and oblong fruit.

The species was originally described by Yuncker (1966) from eastern São Paulo state, based on material collected by Hoehne in 1927 and deposited at the Herbarium of University of Illinois (ILL). Yuncker (1972) cited this species again with the same material examined. Monteiro and Guimarães (2009) expanded its range distribution to the Itatiaia National Park, southern Rio de Janeiro state.

Piper scabrellum is known only from six localities, with less than ten records for 86 years. The record of this species in the Serra do Valentim is the first to Espírito Santo state (Figure 2) and increases the both the species range in 250 km to the north, and the estimated extent of occurrence to about 55,000km². The conservation status of this species is given as Vulnerable (VU), under criteria B2ab(i,iii) (IUCN 2012), besides the fact of being cited as a rare species in the Brazilian flora (Oliveira *et al.* 2008).

Examined Material: BRAZIL. ESPÍRITO SANTO: Iúna, Serra do Valentim, estrada para a torre, próximo a uma grota, fl., 16.09.2011, Zorzanelli, J.P.F. 117 (VIES, RB). Iúna, Serra do Valentim, Sítio do Sr. Plínio, área de nascente de água, fr., 10.12.2011, Zorzanelli, J.P.F. 219 (VIES, RB).

Additional examined material: BRAZIL. RIO DE JANEIRO: Itatiaia, Trilha para a cachoeira Véu de Noiva, fl., 10.8.2004, D. Monteiro 61 (RB). Itatiaia, Estrada para o Véu de Noiva, próximo à cachoeira do Itaporani., fl., 9.8.2004, D. Monteiro 58 (RB). Itatiaia, Trilha para os Três Picos, fl., 10.8.2004, D. Monteiro 69 (RB). Itatiaia, Maromba, Cachoeira Itaporani. margem do rio Campo Belo., fl., 29.9.1995, Braga, J.M.A. 2886 (RB). SÃO PAULO: Sete Barras, Fazenda Intervales-Base Saibadela, trilha do rio, fl., 11.05.1994, Zipparro, V.B. Saibadela321 (SP). Itapira, fl. fr., 16.5.[1]927, Hoehne, F. C. s.n. ILL-8730 (ILL-holotype).

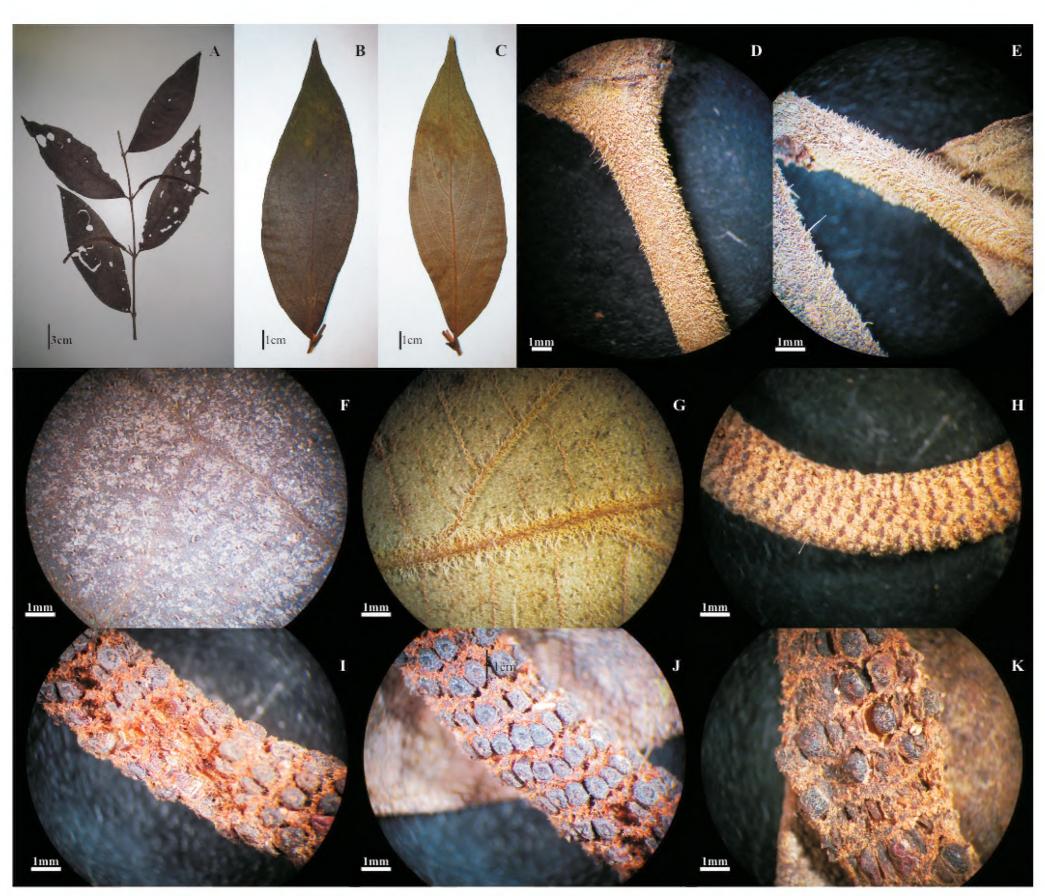


FIGURE 1. *Piper scabrellum*: A. Habit. B. Adaxial side of leaf surface. C. Abaxial ide of leaf surface. D. Stems. E. Petioles. F. Leaf with scabrous hairs adaxially. G. Leaf with hispid-hirsute hairs abaxially. H. Detail of flowers of the spike and floral bracts I. Rachis sulcate. J-K. Detail of fruits of the spike and floral bracts. (Zorzanelli 219, except figure 1H: Zorzanelli 117).

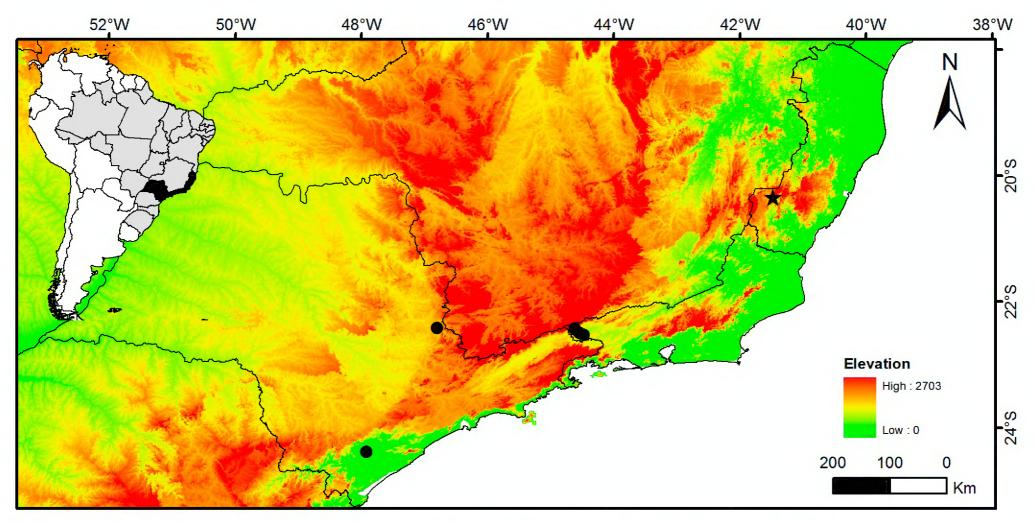


FIGURE 2. Distribution map of *Piper scabrellum*. Dots are known distribution localities, stars represent the new record.

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LITERATURE CITED

- Coelho, M.A.N. 2010. A família Araceae na Reserva Natural Vale, Linhares, Espírito Santo, Brasil. *Boletim do Museu de Biologia Mello Leitão* 28(1): 41–87.
- Freitas, J., E.J, Lírio and F. González. 2013. A new cauliflorous species of *Aristolochia* (Aristolochiaceae) from Espírito Santo, Brazil. *Phytotaxa* 124(1): 55–59.
- Frodin, D.G. 2004. History and Concepts of Big Plant Genera. *Taxon* 53(3): 753–776.
- Goldenberg, R. and M. Reginato. 2006. Sinopse da família Melastomataceae na Estação Biológica de Santa Lúcia, Santa Teresa, Espírito Santo. *Boletim do Museu de Biologia Mello Leitão* 20(1): 33–58.
- Guimarães, E.F. and M. Carvalho-Silva. 2012. Piperaceae; pp. 263–320, in: M.G.L. Wanderley, G.J. Shepherd, T.S. Melhem, S.E. Martins and A.M. Giulietti. (coord.). *Flora Fanerogâmica do Estado de São Paulo*. Volume VII. São Paulo: Instituto de Botânica.
- Guimarães, E.F., M. Carvalho-Silva., D. Monteiro. and E.S. Medeiros. 2013. Piperaceae, in: *Lista de Espécies da Flora do Brasil*. Jardim Botânico do Rio de Janeiro. Accessible at http://floradobrasil.jbrj.gov.br/jabot/floradobrasil/FB12609. Captured on 20 August 2013.
- IUCN. 2012. *IUCN Red List Categories and Criteria: Version 3.1*. Second edition. Gland and Cambridge: IUCN. 32 pp.
- Jaramillo, M., R. Callejas, C. Davidson, J. Smith, A. Stevens and Tepe, E. 2008. A Phylogeny of the Tropical Genus *Piper* Using ITS and the Chloroplast Intron psbJ-petA. *Systematic Botany* 33(4): 647–660.
- Kollmann, L.J.C. 2006. Begoniaceae da Estação Biológica de Santa Lúcia, município de Santa Teresa, Espírito Santo, Brasil. *Boletim do Museu de Biologia Mello Leitão* 20(1): 7–25.
- Kollmann, L.J.C. and A.L. Peixoto. 2012. *Begonia fragae* L.Kollmann & Peixoto and *Begonia wasshauseniana* L.Kollmann & Peixoto (Begoniaceae), two new species from the state of Espírito Santo, Brazil. *Candollea* 67(1): 59–64.

- Leme, E.M.C. and L.J.C. Kollmann. 2013. Miscellaneous new species of brazilian Bromeliaceae. *Phytotaxa* 108(1): 1–40.
- Meirelles, J., L.J.C. Kollmann and R. Goldenberg. 2012. *Tibouchina tedescoi*: a new species in *Tibouchina* sect. *Pleroma* (Melastomataceae) from Espírito Santo, Brazil. *Kew Bulletin* 67(1): 461–465.
- Ministério do Meio Ambiente (MMA). 2008. Áreas prioritárias para a conservação, uso sustentável e repartição de benefícios da biodiversidade brasileira. Second edition. Brasília, DF: Ministério do Meio Ambiente, Secretaria de Biodiversidade e Florestas.
- Monteiro, D. and E.F. Guimarães. 2009. Flora Do Parque Nacional Do Itatiaia Brasil: *Manekia e Piper* (Piperaceae). *Rodriguésia* 60(4): 999–1024.
- Oliveira, R.P., M.F. Costa, M.C. Dórea, F.M. Ferreira and E.F. Guimarães. 2009. Piperaceae; pp. 317–323, in: A.M. Giulietti, A. Rapini, M.J.G. Andrade, L.P. Queiroz and J.M.C. Silva (org.). *Plantas raras do Brasil*. Belo Horizonte: MG: Conservação Internacional. 496 pp.
- Quijano-Abril, M.A., R. Callejas-Posada, and D.R. Miranda-Esquivel. 2006. Areas of endemism and distribution patterns for Neotropical *Piper* species (Piperaceae). *Journal of Biogeography* 33(1): 1266–1278.
- Stehmann, J.R. and L.L. Giacomin. 2012. *Markea atlantica* (Solanaceae): a new species of tribe Juanulloeae disjunct from its core distribution. *Systematic Botany* (37)4: 1035–1042.
- Yuncker, T.G. 1966. New species of Piperaceae from Brazil. *Boletim do Instituto de Botânica* 3(1): 140–195.
- Yuncker, T.G. 1972. The Piperaceae of Brazil. I. *Piper*-Group I, II, III, IV. *Hoehnea* 2(1): 19–366.

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